

I claim:

- 1 1. An apparatus for use with an electrophysiology device that
2 includes a coagulation element, the apparatus comprising:
3 a main body;
4 a suction region associated with the main body;
5 a stimulation element on the main body; and
6 a connector configured to secure at least a portion of the
7 electrophysiology device adjacent to the suction region.
- 1 2. An apparatus as claimed in claim 1, wherein the suction region
2 comprises a plurality of suction regions and the stimulation element comprises
3 a plurality of stimulation elements.
- 1 3. An apparatus as claimed in claim 1, wherein the stimulation
2 element comprises a stimulation electrode.
- 1 4. An apparatus as claimed in claim 1, wherein the stimulation
2 element comprises a stimulation electrode pair.
- 1 5. An apparatus as claimed in claim 1, further comprising:
2 a sensing element on the main body in spaced relation to the
3 stimulation element.
- 1 6. An apparatus as claimed in claim 5, wherein the stimulation
2 element, the sensing element, and the connector are positioned such that the
3 stimulation element and the sensing element are located on opposite sides of
4 the connector.
- 1 7. An apparatus as claimed in claim 5, wherein the sensing
2 element comprises a sensing electrode.

1 8. An apparatus as claimed in claim 5, wherein the sensing
2 element comprises a sensing electrode pair.

1 9. An apparatus as claimed in claim 1, wherein the suction region
2 comprises first and second suction ports and the connector is positioned
3 between the first and second suction ports.

1 10. An apparatus as claimed in claim 9, further comprising:
2 a sensing element on the main body adjacent to the first suction
3 port;
4 wherein the stimulation element is adjacent to the second
5 suction port.

1 11. An apparatus as claimed in claim 1, wherein the connector is
2 configured to removably secure at least a portion of the electrophysiology
3 device adjacent to the suction region.

1 12. A system for use with an electrophysiology device that includes
2 a coagulation element, the system comprising:
3 a suction source; and
4 an apparatus, adapted to be operably connected to the suction
5 source, including a main body, a suction region associated with the main
6 body, a stimulation element on the main body, and a connector configured to
7 secure at least a portion of the electrophysiology device adjacent to the
8 suction region.

1 13. A system as claimed in claim 12, wherein the suction region
2 comprises a plurality of suction regions and the stimulation element comprises
3 a plurality of stimulation elements.

1 14. A system as claimed in claim 12, wherein the stimulation
2 element comprises a stimulation electrode.

1 15. A system as claimed in claim 12, wherein the stimulation
2 element comprises a stimulation electrode pair.

1 16. A system as claimed in claim 12, further comprising:
2 a sensing element on the main body in spaced relation to the
3 stimulation element.

1 17. A system as claimed in claim 16, wherein the stimulation
2 element, the sensing element, and the connector are positioned such that the
3 stimulation element and the sensing element are located on opposite sides of
4 the connector.

1 18. A system as claimed in claim 16, wherein the sensing element
2 comprises a sensing electrode.

1 19. A system as claimed in claim 16, wherein the sensing element
2 comprises a sensing electrode pair.

1 20. A system as claimed in claim 12, wherein the suction region
2 comprises first and second suction ports and the connector is positioned
3 between the first and second suction ports.

1 21. A system as claimed in claim 20, further comprising:
2 a sensing element on the main body adjacent to the first suction
3 port;
4 wherein the stimulation element is adjacent to the second
5 suction port.

1 22. A system as claimed in claim 12, wherein the connector is
2 configured to removably secure at least a portion of the electrophysiology
3 device adjacent to the suction region.

1 23. A system, comprising:
2 an electrophysiology device including a support structure and a
3 coagulation element carried on the support structure; and

4 a stimulation apparatus including a main body, a suction region
5 associated with the main body, a stimulation element on the main body, and a
6 connector configured to secure at least a portion of the electrophysiology
7 device adjacent to the suction region.

1 24. A system as claimed in claim 23, wherein the
2 electrophysiological device support structure defines a cross-sectional size
3 and shape and the connector defines a corresponding cross-sectional size
4 and shape.

1 25. A system as claimed in claim 23, further comprising:
2 a suction source adapted to be operably connected to the
3 stimulation apparatus.

1 26. A system as claimed in claim 23, further comprising:
2 a stimulation energy source adapted to be operably connected
3 to the stimulation apparatus.

1 27. A system as claimed in claim 23, further comprising:
2 a coagulation energy source adapted to be operably connected
3 to the electrophysiology device.

1 28. A system as claimed in claim 23, wherein the
2 electrophysiological device includes a plurality of spaced coagulation
3 elements, the stimulation apparatus includes a plurality of spaced stimulation
4 elements, and the electrophysiological device and stimulation apparatus are
5 respectively configured such that the coagulation elements will be adjacent to
6 respective stimulation elements when the electrophysiology device is
7 connected to the stimulation apparatus.

1 29. A system as claimed in claim 28, further comprising:
2 a plurality of sensing elements on the main body;

3 wherein the stimulation elements, the sensing elements, and the
4 connector are positioned such that the stimulation elements and sensing
5 elements are located on opposite sides of the connector.

1 30. A system as claimed in claim 23, wherein the stimulation
2 element comprises a stimulation electrode.

1 31. A system as claimed in claim 23, wherein the stimulation
2 element comprises a stimulation electrode pair.

1 32. A system as claimed in claim 23, further comprising:
2 a sensing element on the main body in spaced relation to the
3 stimulation element.

1 33. A system as claimed in claim 32, wherein the stimulation
2 element, the sensing element, and the connector are positioned such that the
3 stimulation element and the sensing element are located on opposite sides of
4 the connector.

1 34. A system as claimed in claim 32, wherein the sensing element
2 comprises a sensing electrode.

1 36. A system as claimed in claim 32, wherein the sensing element
2 comprises a sensing electrode pair.

1 37. A system as claimed in claim 23, further comprising:
2 an electrophysiology recording apparatus adapted to be
3 operably connected to the sensing element on the stimulation apparatus.

1 38. A system as claimed in claim 23, wherein the connector is
2 configured to removably secure at least a portion of the electrophysiology
3 device adjacent to the suction region.

1 39. A method, comprising the steps of:

2 forming a lesion in tissue;
3 securing a stimulation element to tissue adjacent to the lesion
4 with a suction device; and
5 transmitting stimulation energy to the tissue adjacent to the
6 lesion.

7

1 40. A method as claimed in claim 39, wherein the step of forming a
2 lesion comprises forming a lesion in tissue by supplying coagulation energy to
3 the tissue.

1 41. A method as claimed in claim 39, wherein the step of forming a
2 lesion comprises forming a lesion in tissue by supplying coagulation energy to
3 the tissue with an electrode.

1 42. A method as claimed in claim 39, wherein the step of forming a
2 lesion comprises the steps of:

3 positioning a distal portion of an electrophysiology device
4 adjacent to tissue;

5 applying a suction force to the tissue with a suction device
6 secured to the electrophysiology device; and

7 forming a lesion with the electrophysiology device in the tissue
8 while the suction force is being applied.

1 43. A method as claimed in claim 42, wherein the step of securing a
2 stimulation element to tissue comprises:

3 positioning a stimulation element carried on the suction device
4 adjacent to the lesion;

5 applying a suction force to the tissue with a suction device;

6 transmitting stimulation energy to the tissue adjacent to the
7 lesion while the suction force is being applied.

1 44. A method as claimed in claim 39, further comprising the step of:
2 monitoring tissue after transmitting stimulation energy to the
3 tissue.

1 45. A method as claimed in claim 44, wherein the step of monitoring
2 tissue comprises sensing a local excitation caused by the stimulation energy.

1 46. A method as claimed in claim 44,
2 wherein the step of transmitting stimulation energy comprises
3 transmitting stimulation energy to tissue on one side of the lesion; and
4 wherein the step of monitoring tissue comprises monitoring
5 tissue on the other side of the lesion.

1 47. A method as claimed in claim 46, wherein the step of monitoring
2 tissue comprises monitoring tissue on the other side of the lesion to determine
3 a propagation delay.